Amendments to the Specification

Please replace the Abstract with the attached substitute Abstract.

Please replace the paragraph beginning on page 9, line 5, with the following rewritten paragraph:

All bacteria were plated from –80 glycerol stocks on yeast extract medium using glucose (5 % w/w) as carbon source containing 10 g/l ~~gelrite~~ GELRITE (gellan gum, Sigma). Plates were incubated at 46° C for 24-48 hours in anaerobic jars. Thereafter anaerobic cultures were prepared on yeast extract medium with glucose as carbon source (3 % w/w) in sterile 10 ml tubes. The cultures were incubated at 54° C for 24 hours. Thereafter 2 % of the culture was transferred to tubes containing minimal medium with glucose, xylose, ribose or arabinose as carbon source. Tubes were incubated at 54° C for 48 hours. After a second transfer (2 %) to fresh medium and incubation at 54° C for 48 hours, samples were taken for determination of biomass, pH and organic acid production. To determine biomass production, optical density at 610 nm was measured in a spectrophotometer against demineralised water. As an indication for (lactic) acid production, pH was measured in the cell broth. Thereafter cells were harvested by centrifugation (10 min, 8000 rpm), supernatant was filtered through 0.45 μm filters and kept at 4° C for further analysis.

Please replace the paragraph beginning on page 10, line 8, with the following rewritten paragraph:

Pentose sugars were analyzed with a ~~Dionex~~ DIONEX type DX 500 containing a ~~Carbopac~~ CARBOPAC PA-1 column and a PAD (Pulsed Amperometric Detection type ED 40) detector using a flow of 1.0 ml/min.

Please replace Table 1 on page 11, with the following rewritten Table 1:

Organism	C-source (3 % w/w)	Lactic acid (% w/w) 48 h	Acetic acid[1] (% w/w) 48 h	Chiral purity L(+) lactate (S/R+S)*100 % 48 h	PH 48 h	OD 610 48 h
B. coagulans DSM 2314	Xylose	0.24	n.d.[2]	99.7	5.4	-
	Arabinose	0.23	n.d.[2]	99.7	5.3	-
B. smithii DSM 459	Xylose	0.39	n.d.[2]	98.9	4.1	0.9
	Arabinose	0.24	n.d.[2]	99.1	5.3	0.5
	Ribose	0.26	n.d.[2]	99.2	4.6	0.7
B. smithii DSM 460	Xylose	0.38	n.d.[2]	99.3	4.3	1.0
	Arabinose	0.24	n.d.[2]	99.2	5.3	0.6
	Ribose	0.26	n.d.[2]	99.1	4.6	0.7

Please replace Table 2 on page 12, with the following rewritten Table 2:

Organism	C-source (3 % w/w)	Lactic acid (% w/w) 48 h	Acetic acid[1] (% w/w) 48 h	Chiral purity L(+) lactate (S/R+S)*100 % 48 h	pH 48 h	OD 610 48 h
B. coagulans DSM 2314	Xylose	0.26	n.d.[2]	96.7	4.3	0.5
	Arabinose	0.25	n.d.[2]	99.3	4.3	0.5
	Glucose	0.23	n.d.[2]	99.4	5.1	0.4
B. smithii DSM 2319	Xylose	0.21	n.d.[2]	98.1	6.0	0.2
	Arabinose	0.20	n.d.[2]	99.5	6.0	0.3
	Glucose	0.18	n.d.[2]	98.8	6.0	0.2

Please replace the paragraph beginning on page 13, line 7, with the following rewritten paragraph:

The microorganism used was *Bacillus coagulans* DSM 2314. The strain was maintained in glycerol stocks at –80° C. The bioreactor (3 L ~~Applikon~~APPLIKON) contained

1.5 l of medium with the following composition: 2 g/l DAP, 3.5 g/l DAS, 10 g/l BIS-TRIS and 0.5 g/l KCl.

Please replace the paragraph beginning on page 14, line 5, with the following rewritten paragraph:

The pH maintenance was achieved with automatic addition of KOH solution at 20 % (w/v). The fermentation was performed at 54° C, pH 6.4 and agitation speed of 250-300 rpm. The temperature control was performed with the water bath ~~Lauda~~ LAUDA E100, while the pH reading/control data was performed by ADI 1020 ~~Bio Processor~~BIO-PROCESSOR. All the data (pH and base consumption) was processed by the online data acquisition FM V5.0.

Please replace the paragraph beginning on page 14, line 22, with the following rewritten paragraph:

Dry matter was obtained through an initial weighted 0.45 µm ~~Millipore~~ MILLIPORE filter. A 15 to 20 ml sample was filtered, washed with 10 ml of demineralised water and dried at 105° C for 1-2 days. The filter final weight allowed the measurement of the dried cells (CDW) in g/l.

Please replace the paragraph beginning on page 15, line 7, with the following rewritten paragraph:

(1). Xylose concentration as shown in Table 3 was analyzed with a ~~Dionex~~ DIONEX type DX 500 containing a ~~Carbopac~~ CARBOPAC PA-1 column and a PAD (Pulsed Amperometric Detection type ED 40) detector using a flow of 1.0 ml/min.

Please replace Table 3 on page 17, with the following rewritten Table 3:

Time	Xylose g/l	Lactic acid g/l	Chiral purity (S/R+S)*100 %	Acetic acid g/l	Formic acid[1] g/l	Ethanol[1] g/l	Succinic acid[1] g/l
100h	0.2	35	99	1	<0.5	<0.5	<0.5